

**(19) World Intellectual Property Organization
International Bureau**



(43) International Publication Date
13 January 2005 (13.01.2005)

PCT

(10) International Publication Number
WO 2005/003083 A1

(51) International Patent Classification⁷: C07C 309/82
C08F 14/18, H01M 8/02

(21) International Application Number: PCT/US2004/020706

(22) International Filing Date: 25 June 2004 (25.06.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data: 60/482,928 27 June 2003 (27.06.2003) US

(71) **Applicant (for all designated States except US): E.I. DUPONT DE NEMOURS AND COMPANY [US/US]; 1007 Market Street, Wilmington, DE 19898 (US).**

(72) **Inventor; and**
(75) **Inventor/Applicant (for US only): YANG, Zhen-Yu
[US/US]; 177 Thompson Drive, Hockessin, DE 19707
(US).**

(74) Agent: **FICKES, Daphne, P.**; E. I. du Pont de Nemours and Company, Legal Patent Records Center, 4417 Lancaster Pike, Wilmington, DE 19805 (US).

(54) Title: TRIFLUOROSTYRENE CONTAINING COMPOUND

(81) **Designated States** (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

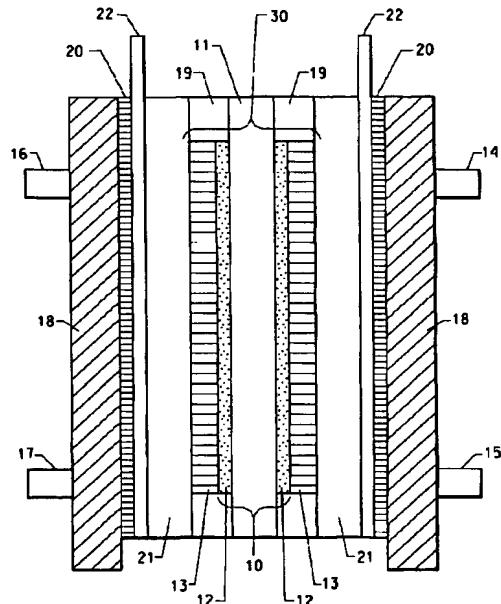
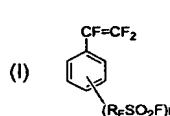
(84) **Designated States** (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- *with international search report*
- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

[Continued on next page]

(54) Title: TRIFLUOROSTYRENE CONTAINING COMPOUNDS, AND THEIR USE IN POLYMER ELECTROLYTE MEMBRANES



WO 2005/003083 A1

(57) Abstract: A monomer having the structure (I) wherein R_F is linear or branched perfluoroalkene group, optionally containing oxygen or chlorine; and n is 1 or 2. These monomers are used in the preparation of homopolymers and copolymers that are useful in preparing polymer electrolyte membranes. Electrochemical cells, such as fuel cells, containing these membranes are also described.



For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.